ARCS Radiometer Calibration Check Using Comparison Instruments Form

I. **Calibration information**

This is a (check which):

Calibration	Calibration Check	Field Calibration
	X	

	Date:	GMT Begin Time:	GMT End Date:	GMT End Time:	ARCS #
	7/21/2003	05:00	7/21/2003	6:00	**3**
	MM/DD/YY		MM/DD/YY		

	SKYRAD	GNDRAD	CAL Logger
Old configuration version	V020822.00	V030515.00	V011024.06
New configuration version	V030718.00	V030718.00	V030716.00

Instrument / System:	TWP OMS Part Number(s):	Changed?	TWP OMS Serial Number(s):	Cal Factor
PIRG PIR1	PIR		33059F3	258397
PIRD PIR2	PIR	**yes**	33061F3	250000
PSPG	PSP		33704F3	116009
PSPD	8-48	**yes**	33574	123153
UVB	501A V3		1900	0.233
IRT	KT19.85			25 -60
NIP	NIP		33551E6	124378
NET	REBS Q*7.1			
PIR GNDRAD	PIR	**yes**	31390F3	239234
PSP GNDRAD	PSP	**yes**	33703F6	122100
MFRSR	MFR7-HEAD / MFRSR-Logger Board		430	
Tracker	KZ		010189 WD33300	

Verify that serial number of test instruments above are correct. (yes / no) **yes**

Location (eg. PNNL, Manus):	Participant(s):	Issued by:	Signature(s):
Darwin	T. Culgan R. Pierswon		
	B. Porch		

Comparison Reference Instrument(s):	TWP OMS Part Number(s):	TWP OMS Serial Number(s):	Calibration Coefficients
PIR1	PIR	30168F3	252525
PSP1	Aug-48	33387	109649
NIP1top	NIP	31350E6	121080
PSP2	8-48	33386	110865
MFRSR	MFR7-HEAD / MFRSR-Logger Board		
NIP2	NIP		
PIR2	PIR	31307F3	286533

Verify that serial numbers of reference instruments are correct (yes/no)   **X**

Verify with mentor that calibration coefficients and configuration file changed accordingly for PIRs, PSPs, and NIPs. (yes / no)

II. Initial Values   note: the following are determined from sample values of voltages from the logger during unobsured sun conditions if possible (using ARM calculator or other technique)

Sensor / Element	value Reference (usually spare instr.)	Value of SKYRAD Instr.	% Difference: SKYRAD and Spare	Time (GMT)	Sun Obscured? (Yes/No)
PIR1C & PIRG (W/m2)					
PIR2C & PIRD (W/m2)					
PIR1C & PIRG (Td oC)					
PIR2C & PIRD (Td oC)					
PIR1C & PIRG (Tc oC)					
PIR2C & PIRD (Tc oC)					
PSP1C & PSPG (W/m2)					
PSP2C & PSPG (W/m2)					
NIP1C & NIP (W/m2)					
NIP2C & NIP (W/m2)					
PIRD & PIR GNDRAD (W/m2)					
PSPG &PSP GNDRAD (W/m2)					
IRT oC					
NET (W/m2)					
MFRSR (W/m2 @615 nm)					

III. <u>Final Values</u>

Sensor / Element	Value Reference (usually spare instr.)	Value of SKYRAD Instr.	% Difference: SKYRAD and Spare	Time (GMT)	Sun Obscured? (Yes/No)
PIR1C & PIRG (W/m2)					
PIR2C & PIRD (W/m2)					
PIR1C & PIRG (Td oC)					
PIR2C & PIRD (Td oC)					
PIR1C & PIRG (Tc oC)					
PIR2C & PIRD (Tc oC)					
PSP1C & PSPG (W/m2)					
PSP2C & PSPG (W/m2)					
NIP1C & NIP (W/m2)					
NIP2C & NIP (W/m2)					
PIRD & PIR GNDRAD (W/m2)					
PSPG &PSP GNDRAD (W/m2)					
IRT oC					
NET (W/m2)					
MFRSR (W/m2 @615 nm)					

IV. **Statistics** (if applicable)

No. of Samples:	Begin Date / Time GMT	End Daste / Time GMT

V. **Calilbration Change** (if applicable)

Sensor or Parameter	Sensor Serial No.	Internal Resistance	Original Sensitivity	Offset	Quadratic
	Old	Old	Old	Old	Old
	New	New	New	New	New

Document(s) Referenced:

PRO(RAD)-001.001

Document(s) Updated:

PRO(RAD)-001.007

PROBLEMS:
We forgot to change the GNDRAD config file until 3 hours after it was changed. The largest differences after the radiometer change seem to come PSPGc1 on the cal logger. It came from the gndrad logger and was used as it's PSPdown for the last year. The NIP comparison went well on the 21st but on the 22nd the NIP1c was off. The NIP1c was just a bit out of alignment when we checked.

NOTES: